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SEQUENCE LISTING

<110> AMGEN INC., et al.

<120> HAMMERHEAD RIBOZYMES

<130> 06843.0048-00304

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<150> 60/389,147

<151> 2002-06-13

<160> 147

<170> PatentIn Ver. 2.1

<210> 1

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tegggcgtcc tggatctgc 79

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<223> Description of Artificial Sequence: Primer

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taatacgact cactataggg atttaccgag cag 33

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<223> Description of Artificial Sequence: Primer

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<210> 6
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<223> a, u, c or g

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ucgggcgucc uggaucugc 79

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cgggcguccu ggaucugc 78

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ggcguccugg aucugc 76

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cgggcguccu ggaucugc 78

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78

<210> 16

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cgggcguccu ggaucugc 78

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<211> 78
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cgggcguccu ggaucugc 78

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cgggcguccu ggaucugc 78

<210> 22
<211> 78
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<400> 22
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cgggcguccu ggaucugc 78

<210> 23
<211> 78
<212> RNA
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<400> 23
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cgggcguccu ggaucugc 78

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<210> 24
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<210> 25
<211> 77
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<210> 26
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<210> 27
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<212> RNA

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cgggcguccu ggaucugc 78

<210> 31

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<210> 32

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cgggcguccu ggaucugc 78

<210> 33

<211> 78

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cgggcguccu ggaucugc 78

<210> 34

<211> 64

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<223> Description of Artificial Sequence: Synthetic
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<400> 34

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cgggcguccu ggaucugc 64

<210> 35

<211> 78

<212> RNA

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<223> Description of Artificial Sequence: Synthetic
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cgggcguccu ggaucugc 78

<210> 36

<211> 78

<212> RNA

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10/33

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cgggcguccu ggaucugc 78

<210> 37

<211> 78

<212> RNA

<213> Artificial Sequence

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<400> 37

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cgggcguccu ggaucugc 78

<210> 38

<211> 78

<212> RNA

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cgggcguccu ggaucugc 78

<210> 39

<211> 78

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cgggcguccu ggaucugc 78

<210> 40

<211> 78

<212> RNA

<213> Artificial Sequence

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11/33

oligonucleotide

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cgggcguccu ggaucugc 78

<210> 41

<211> 78

<212> RNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
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cgggcguccu ggaucugc 78

<210> 42

<211> 78

<212> RNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
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cgggcguccu ggaucugc 78

<210> 43

<211> 78

<212> RNA

<213> Artificial Sequence

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cgggcguccu ggaucugc 78

<210> 44

<211> 56

<212> RNA

<213> Artificial Sequence

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<400> 44
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<210> 45
<211> 66
<212> RNA
<213> Artificial Sequence

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<221> modified_base
<222> (27)..(32)
<223> a, u, c or g

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aguccc 66

<210> 46
<211> 65
<212> RNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
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<400> 46
gggacuuaag cccacugaug agucgcuggg augcgacgaa acgccuucgg gcgucugggc 60
agucc 65

<210> 47
<211> 63
<212> RNA
<213> Artificial Sequence

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oligonucleotide

<400> 47
gggacuuaag cccacugaug agucgcuggg augcgacgaa acgccuucgg gcaucacgaa 60
uuc 63

<210> 48
<211> 66
<212> RNA
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13/33

oligonucleotide

<400> 48

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aguccc 66

<210> 49

<211> 53

<212> RNA

<213> Artificial Sequence

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gggacuuaag cccacugaug agucgcuggg augcgacgaa acgccuucgg gcg 53

<210> 50

<211> 66

<212> RNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
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<400> 50

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aguccc 66

<210> 51

<211> 66

<212> RNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 51

uggacuuaag cccacugaug agucgcugcg augcgacgaa acgccuucgg gcgucugggc 60
aguccc 66

<210> 52

<211> 66

<212> RNA

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oligonucleotide

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<400> 52
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aguccc 66

<210> 53
<211> 52
<212> RNA
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<400> 53
gggacuuaag cccacugaug agucgcugwg augcgacgaa acgccuucgg gc 52

<210> 54
<211> 61
<212> RNA
<213> Artificial Sequence

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oligonucleotide

<400> 54
gggacuuaag cccacugaug agucgcugga augcgacgaa acgccuucgg aucacgaauu 60
c 61

<210> 55
<211> 70
<212> RNA
<213> *Notophthalmus viridescens*

<400> 55
uuggauucaa gcuagccugg cugaugaagg gugauacca gaaaccgguc cuaggauucu 60
uuguuuccgg 70

<210> 56
<211> 66
<212> RNA
<213> *Ambystoma talpoideum*

<400> 56
gacccaagcu acuccucacu gaugaggccc aacaaggcug aaacauguuu ggggaugcuu 60
gugguc 66

<210> 57
<211> 61
<212> RNA
<213> *Amphiuma tridactylum*

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<400> 57
cuuaagcugc accucacuga ugaugcccaa ugaggcugaa acgcguuugg gguugcuuga 60
g 61

<210> 58
<211> 69
<212> RNA
<213> Schistosoma mansoni

<400> 58
ggcagguaca uccagcugac gaguccaaa uaggacgaaa ugccuucggg cauccuggau 60
uccacugcu 69

<210> 59
<211> 71
<212> RNA
<213> Dolichopoda baccettii

<400> 59
guguguuccc ucugccccgc ugaugagguc ggggagaccg aaagggucac cucuacgggg 60
cuauuacau c 71

<210> 60
<211> 78
<212> RNA
<213> Dolichopoda schiavazzii

<400> 60
gauguguguu cccucugccc cgcugaugag gucagggag accgaaaggg ucgacucua 60
ggggcuauaa caugcaau 78

<210> 61
<211> 40
<212> RNA
<213> Avocado sunblotch viroid

<400> 61
ggaaagaugg gaagaacacu gaugagucuc gcaagguua 40

<210> 62
<211> 40
<212> RNA
<213> Avocado sunblotch viroid

<400> 62
uaaacuuugu uugacgaaac caggucuguu ccgacuuucc 40

<210> 63
<211> 30
<212> RNA
<213> Avocado sunblotch viroid

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<400> 63
uucccaucuu ucccugaaga gacgaaguga 30

<210> 64
<211> 34
<212> RNA
<213> Avocado sunblotch viroid

<400> 64
ucacaagucg aaacucagag ucggaaaguc ggaa 34

<210> 65
<211> 44
<212> RNA
<213> Unknown Organism

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<223> Description of Unknown Organism: Carnation small
viroid-like RNA

<400> 65
uucgagccuu accgacacug augagccaag aggaacuugg aggc 44

<210> 66
<211> 52
<212> RNA
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Carnation small
viroid-like RNA

<400> 66
gccuccaagg ggccuggagg cgaaaccccg gggucuguug ggaccacucg ga 52

<210> 67
<211> 59
<212> RNA
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: HH2 RNA sequence

<400> 67
gcgaugaccu gaugaggccg aaaggccgaa acguucucgc gagagaacgu cgucgucgc 59

<210> 68
<211> 55
<212> RNA
<213> Unknown Organism

<220>
<223> Description of Unknown Organism: Small circular

17/33

cherry RNA

<400> 68
augcuguagu gggaugugug ucucaccuga agaggacaaa aguccgaaac gguau 55

<210> 69

<211> 51

<212> RNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Small circular
cherry RNA

<400> 69
gcuauauggg gauguguguc ccuacugacg agucaaaaag aacgaaauag u 51

<210> 70

<211> 55

<212> RNA

<213> Lucerne transient streak virus

<400> 70
uacgucugag cgugauaccc gcucacugaa gauggcccgg uagggccgaa acgua 55

<210> 71

<211> 60

<212> RNA

<213> Lucerne transient streak virus

<400> 71
gacguaugag acugacugaa acgcccuguc acugaugagg ccauggcagg ccgaaacguc 60

<210> 72

<211> 52

<212> RNA

<213> Tobacco ringspot virus

<400> 72
ccugucaccg gaugugcuuu ccggucugau gaguccguga ggacgaaaca gg 52

<210> 73

<211> 54

<212> RNA

<213> Arabis mosaic virus

<400> 73
acugucgccg gauguguauc cgaccugacg auggcccaaa agggccgaaa cagu 54

<210> 74

<211> 53

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<212> RNA

<213> Chicory yellow mottle virus

<400> 74

uacugucgcc agacguggac ccggccugau gaguccgaaa ggacgaaaca gua 53

<210> 75

<211> 51

<212> RNA

<213> Barley yellow dwarf virus

<400> 75

ggugucuaa ggugcguacc uugacugaug aguccgaaag gacgaaacac c 51

<210> 76

<211> 89

<212> RNA

<213> Barley yellow dwarf virus

<400> 76

guggauaaca gagcgcuac ugucugacga cguauccgcg cggacuagaa ggcuggugcc 60
ucguccaaca aaugauaca gaaauccac 89

<210> 77

<211> 54

<212> RNA

<213> Peach latent mosaic viroid

<400> 77

gaagagucug ugcuaagcac acugacgagu cucugagaug agacgaaacu cuuc 54

<210> 78

<211> 56

<212> RNA

<213> Peach latent mosaic viroid

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ucauaagucu gggcuaagcc cacugaugag ucgcugaaau gcgacgaaac uuauga 56

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<211> 61

<212> RNA

<213> Chrysanthemum chlorotic mottle virus

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aagaggucgg caccugacgu cgguguccug augaagauc augacaggau cgaaaccucu 60
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<210> 80

<211> 81

<212> RNA

<213> Chrysanthemum chlorotic mottle virus

19/33

<400> 80
uccagucgag accugaagug gguuuccuga ugaggcugug gagagagcga aagcuuuacu 60
cccacacaag ccgaaacugg a 81

<210> 81
<211> 54
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<213> Subterranean clover mottle virus

<400> 81
cgcugucugu acuuguaucg guacacugac gagucccuaa aggacgaaac agcg 54

<210> 82
<211> 50
<212> RNA
<213> Velvet tobacco mottle virus

<400> 82
uccguagugg auguguaucg acucugauga guccgaaagg acgaaacgga 50

<210> 83
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<212> RNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Illustrative
randomized RNA sequence for isolating I/III
trans-cleaving hammerhead ribozymes

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<222> (27) .. (32)
<223> a, u, c or g

<400> 83
gggacugaag cccacugaug agucgcnnnn nngcgacgaa acgccuucgg gcgucugggc 60
aguccc 66

<210> 84
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

<400> 84
taatagcact cactatggga cctgtcaccg gatgtgcttt ccggtctgat gagtccgtga 60
ggacgaaaca ggtccc 76

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<210> 85
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

<400> 85
taatacgact cactatggga tacgtctgag cgtgataccc gctcactgaa gagggccggt 60
agggccgaaa cgtatccc 78

<210> 86
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

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taatacgact cactatggga tcataagtct gggctaagcc cactgatgag tcgctgaaat 60
gcgacgaaac ttatgatcc 79

<210> 87
<211> 76
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

<400> 87
taatacgact cactatggga cctgtcaccg gatgatacct ccggtctgat gagtccgtga 60
ggacgaaaca ggtccc 76

<210> 88
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

<400> 88
taatacgact cactatggga cctgtcaccg gatgtgcttt ccggtctgat gagtcccggt 60
agggacgaaa caggatccc 78

<210> 89
<211> 78

21/33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

<400> 89

taatacgact cactatggga cctgtcaccg gatgatacct ccggtctgat ggtccccggt 60
agggacgaaa cagggtccc 78

<210> 90

<211> 70

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

<400> 90

taatacgact cactatggga cctgtcaccg gtaaccgggtc tgatgagtcc gtgaggacga 60
aacagggtccc 70

<210> 91

<211> 80

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

<400> 91

taatacgact cactatggga cctgtcaccg gatgtgcttt ccggtctgat ggtccctga 60
aatgggacga aacagggtccc 80

<210> 92

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
template oligonucleotide

<400> 92

taatacgact cactatggga cctgtcaccg gtaaccgggtc tgatgagtcc ctgaaatggg 60
acgaaacagg tccc 74

<210> 93

<211> 26

<212> DNA

<213> Artificial Sequence

22/33

<220>

<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

<400> 93

cacggactca tcagaccgga aagcac

26

<210> 94

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

<400> 94

accgggcctc ttcagtgagc gggatc

27

<210> 95

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

<400> 95

atttcagcga ctcacagtg ggccta

26

<210> 96

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

<400> 96

cacggactca tcagaccgga ggtatc

26

<210> 97

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

23/33

<400> 97
taccgggact catcagaccg gaaagca 27

<210> 98
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

<400> 98
taccgggact catcagaccg gaggtat 27

<210> 99
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

<400> 99
tcacggactc atcagaccgg tta 23

<210> 100
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

<400> 100
ttcagggact catcagaccg gaaagca 27

<210> 101
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
antisense oligonucleotide

<400> 101
atttcaggga ctcatcagac cggtta 26

<210> 102
<211> 60

24/33

<212> RNA

<213> Tobacco ringspot virus

<400> 102

gggacccguc accggaugug cuuuccgguc ugaugagucc gugaggacga aacaggucc 60

<210> 103

<211> 60

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
chimeric ribozyme RNA sequence

<400> 103

gggacccguc accggaugau accuccgguc ugaugagucc gugaggacga aacaggucc 60

<210> 104

<211> 62

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
chimeric ribozyme RNA sequence

<400> 104

gggacccguc accggaugau accuccgguc ugaugagucc cgguagggac gaaacagguc 60
cc 62

<210> 105

<211> 62

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
chimeric ribozyme RNA sequence

<400> 105

gggacccguc accggaugug cuuuccgguc ugaugagucc cgguagggac gaaacagguc 60
cc 62

<210> 106

<211> 62

<212> RNA

<213> Lucerne transient streak virus

<400> 106

gggauacguc ugagcgugau acccgcucac ugaugaggcc cgguagggcc gaaacgnauc 60
cc 62

25/33

<210> 107
<211> 60
<212> RNA
<213> Tobacco ringspot virus

<400> 107
gggacccguc accggaugug cuuuccgguc ugaugagucc gugaggacga aacaggucc 60

<210> 108
<211> 54
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
chimeric ribozyme RNA sequence

<400> 108
gggacccguc accgguaacc ggucugauga guccgugagg acgaaacagg uccc 54

<210> 109
<211> 58
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
chimeric ribozyme RNA sequence

<400> 109
gggacccguc accgguaacc ggucugauga gucccuaaaag ugggacgaaa caggucc 58

<210> 110
<211> 64
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
chimeric ribozyme RNA sequence

<400> 110
gggacccguc accggaugug cuuuccgguc ugaugagucc cuaaaguggg acgaaacagg 60
uccc 64

<210> 111
<211> 64
<212> RNA
<213> Peach latent mosaic viroid

<400> 111
gggaucuaaa gucugggcua agcccacuga ugagucgcua aagugcgacg aaacuuauga 60
uccc 64

26/33

<210> 112
<211> 60
<212> RNA
<213> Tobacco ringspot virus

<400> 112
gggaccuguc accggaugug cuuuccgguc ugaugagucc gugaggacga aacagguccc 60

<210> 113
<211> 71
<212> RNA
<213> Schistosoma mansoni

<400> 113
gggcagguac auccagcuga ugagucccaa auacgacgaa acgccuucgg gcguccugga 60
uuccacugcc c 71

<210> 114
<211> 43
<212> RNA
<213> Schistosoma mansoni

<400> 114
gcagguacau ccagcugaug agucccaaaau aggacgaaac gcc 43

<210> 115
<211> 20
<212> RNA
<213> Schistosoma mansoni

<400> 115
ggcguccugg auuccacugc 20

<210> 116
<211> 71
<212> RNA
<213> Schistosoma mansoni

<400> 116
gggcagguac auccagcuga ugagucccaa auaggacgaa acgccuucgg gcguccugga 60
uuccacugcc c 71

<210> 117
<211> 43
<212> RNA
<213> Schistosoma mansoni

<400> 117
gcagguacau ccagcugaug agucccaaaau aggacgaaac gcc 43

27/33

<210> 118
<211> 20
<212> RNA
<213> Schistosoma mansoni

<400> 118
ggcguccugg auuccacugc 20

<210> 119
<211> 71
<212> RNA
<213> Schistosoma mansoni

<400> 119
gggcagguac auccagcuga ugagucccaa auaggacgaa acgccuucgg gcguccugga 60
uuccacugcc c 71

<210> 120
<211> 84
<212> RNA
<213> Dolichopoda baccettii

<400> 120
caugaugugu guuuccucug ccccgugau gaggucgggg agaccgaaag ggucaacucu 60
acggggcuau uacaugcaau ggug 84

<210> 121
<211> 93
<212> RNA
<213> Dolichopoda schiavazzii

<400> 121
guccaucag auguguguuc ccucugcccc gcugaugagg ucagggaga ccgaaagggg 60
cgacucuacg ggcuuaaca ugcauggug gac 93

<210> 122
<211> 20
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: I/III
trans-cleaving hammerhead ribozyme RNA sequence

<400> 122
ggcguccugg auuccacugc 20

<210> 123
<211> 43
<212> RNA
<213> Artificial Sequence

28/33

<220>

<223> Description of Artificial Sequence: I/III
trans-cleaving hammerhead ribozyme RNA sequence

<400> 123

gcagguacau ccagcugaug agucccaau aggacgaaac gcc

43

<210> 124

<211> 20

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: I/III
trans-cleaving hammerhead ribozyme RNA sequence

<400> 124

ggcguccugg auguaccugc

20

<210> 125

<211> 43

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: I/III
trans-cleaving hammerhead ribozyme RNA sequence

<400> 125

gcagguacau ccagcugaug agucccaau aggacgaaac gcc

43

<210> 126

<211> 43

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: trans-cleaving
hammerhead ribozyme RNA sequence

<400> 126

gcagguacau ccagcugaug agucccaau aggacgaaac gcu

43

<210> 127

<211> 20

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: trans-cleaving
hammerhead ribozyme RNA sequence

<400> 127

agcguccugg auuccacugc

20

29/33

<210> 128
<211> 45
<212> RNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: trans-cleaving
hammerhead ribozyme RNA sequence

<400> 128
gcagguacau ccagcugaug agucccaau aggacgaaac ggggg

45

<210> 129
<211> 25
<212> RNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: trans-cleaving
hammerhead ribozyme RNA sequence

<400> 129
cccccguccu ccuggauucc acugc

25

<210> 130
<211> 47
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: trans-cleaving
hammerhead ribozyme RNA sequence

<400> 130
gcagguacau ccagcugaug agucccaau aggacgaaac ggggggg

47

<210> 131
<211> 24
<212> RNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: trans-cleaving
hammerhead ribozyme RNA sequence

<400> 131
cccccccguc cuggauucca cugc

24

<210> 132
<211> 47
<212> RNA
<213> Artificial Sequence

30/33

<220>

<223> Description of Artificial Sequence: trans-cleaving
hammerhead ribozyme RNA sequence

<400> 132

gggcagguac auccagcuga ugagucccaa auaggacgaa acggggg

47

<210> 133

<211> 24

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: trans-cleaving
hammerhead ribozyme RNA sequence

<400> 133

cccccguccu ggauuccacu gccc

24

<210> 134

<211> 17

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: I/III
trans-cleaving hammerhead ribozyme HH16 RNA
sequence

<400> 134

gggaacgucg ucgucgc

17

<210> 135

<211> 38

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: I/III
trans-cleaving hammerhead ribozyme HH16 RNA
sequence

<400> 135

gcgaugaccu gauuaggccg aaaggccgaa acguuccc

38

<210> 136

<211> 17

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: I/III
trans-cleaving hammerhead ribozyme HH16 RNA

31/33

sequence

<400> 136

gggaacgucg ucgucgc

17

<210> 137

<211> 38

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: I/III
trans-cleaving hammerhead ribozyme HH16 RNA
sequence

<400> 137

gcgaugaccu gauuaggccg aaaggccgaa acguuccc

38

<210> 138

<211> 71

<212> RNA

<213> Schistosoma mansoni

<400> 138

gggcagguac auccagcuga ugagucccaa auaggacgaa acgccuucgg gcguccugga
uuccacugc c60
71

<210> 139

<211> 20

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
Shistozyme-modified I/III trans-cleaving
hammerhead ribozyme RNA sequence

<400> 139

ggcguccugg auuccacugc

20

<210> 140

<211> 43

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
Shistozyme-modified I/III trans-cleaving
hammerhead ribozyme RNA sequence

<400> 140

gcagguacau ccagcugaug agucccaaaau aggacgaaac gcc

43

32/33

<210> 141
<211> 16
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TCHR-5:4
modified I/III trans-cleaving hammerhead ribozyme
RNA sequence

<400> 141
ggcguccugg aucugc 16

<210> 142
<211> 47
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TCHR-5:4
modified I/III trans-cleaving hammerhead ribozyme
RNA sequence

<400> 142
gcaguccagu acauccagcu gaugaguccc aaauaggacg aaacgcc 47

<210> 143
<211> 47
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TCHR-7:6
trans-cleaving ribozyme RNA sequence

<400> 143
gggcagguac auccagcuga ugagucccaa auaggacgaa acggggg 47

<210> 144
<211> 24
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: TCHR-7:6
trans-cleaving ribozyme RNA sequence

<400> 144
cccccguccu ggauuccacu gccc 24

<210> 145
<211> 51
<212> RNA
<213> Artificial Sequence

33/33

<220>

<223> Description of Artificial Sequence: TCHR-7:6
trans-cleaving ribozyme RNA sequence

<400> 145

gggcagucca guacauccag cugaugaguc ccaaauagga cgaaacgggg g 51

<210> 146

<211> 20

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TCHR-7:6
trans-cleaving ribozyme RNA sequence

<400> 146

cccccguccu ggaucugccc 20

<210> 147

<211> 79

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Illustrative
randomized RNA sequence for isolating I/III
trans-cleaving hammerhead ribozymes

<220>

<221> modified_base

<222> (17)..(24)

<223> a, u, c or g

<400> 147

gggaauuacc cggcagnnnn nnnnauccag cugaugaguc ccaaauagga cgaaacgccu 60
ucgggcgucc uggaucugc 79